



OMS027/152174

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Joseph Steve Williamson
Scott L. Granger
Roger D. Chancey

Serial No.: 10/790,900

Art Unit: 3679

Date Filed: March 1, 2004

Examiner: Aaron M. Dunwoody

For: Drill Stem Connection

Atty Docket No. OMS027/152174

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RESPONSE TO OFFICE ACTION

10 Mail Stop Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

15 Sir:

This is in response to the Office Action dated March 17, 2006. Each bolded portion of the Office Action has a corresponding bolded portion below

INFORMATION DISCLOSURE STATEMENT

20 The supplemental Information Disclosure Statement filed January 30, 2006 was filed because a PCT search report for a counterpart patent application was issued by the Canadian Intellectual Property Office as of November 29, 2005. A copy of that report and copies of all the cited references are enclosed to supplement the IDS filed January 30, 2006. The examiner is requested to consider the Canadian search report and make the cited references, all of
25 which are attached, of record in this application file.

DRAWINGS

The examiner objects to Figure 2 saying,

30 "The drawings are objected to under 37 CFR 1.85(a) because they fail to show the pin base cross section **CS_{PN}** being about

fifty percent smaller than the box counterbore cross section **CS_{BC}** (i.e., Figure 2) as described in the specification.”

Applicant respectfully points out that the specification at page 7 lines 22, 23 and at page 13, line 20 to page 14, lines 1, 2, compares the pin nose cross section area **CS_{PN}** to the smaller of the cross sectional area of the box counterbore **CS_{BC}** or the cross sectional area of the pin bore **CS_{PB}**. See also Claim 35 at page 29, which states,

a pin nose cross section area **CS_{PN}** which is at least 50% as large as the smaller of the area of the cross section of the box counterbore **CS_{BC}** or the cross section of the pin bore **CS_{PB}**.

Applicant respectfully points out that it is the pin nose cross section that is compared to the cross sectional area of the box counterbore or the pin base.

An analysis of the coupling depicted on Figure 2 of this application reveals that the pin nose cross section area **CS_{PN}** is about 65% of the box counterbore **CS_{BC}** and 54% as large as the pin base cross sectional and **CS_{PB}**.

Here is the analysis for Figure 2:

Connection Portion	Radius to OD Area (in)	Radius to ID area (in)	Cross Sectional Area of* portion (in ²)
CS_{PN}	1.55	1.15	3.39
CS_{PB}	1.85	1.20	6.23
CS_{BC}	2.25	1.85	5.15

$$*C.S.Area = \pi r_{OD}^2 - \pi r_{ID}^2 = \pi(r_{OD}^2 - r_{ID}^2)$$

The analysis above shows that the relationship among **CS_{PN}**, **CS_{PC}** and **CS_{PB}** is as described in the specification and as specified in Claim 35. Accordingly, applicants respectfully request removal of the examiner’s objection to the drawings.

SPECIFICATION AMENDMENTS

Please amend the specification at pages 13 and 17 to correct minor typographical errors and to provide clarity. No new matter has been included. Specification amendments begin at page 4.

CLAIM AMENDMENTS

Please amend claims 1, 8, 18, 21, 25, 29 and 35. **Amended claims** begin on page 8.

Remarks regarding the patentability of the amended and original claims begin on

5 page 19.